George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

FPD-OI-FD36.1
March 9, 2004

ORGANIZATIONAL INSTRUCTION

Flight Projects Directorate
Operations Development Group
FD36

Management Process

Revision A

APPROVAL

NAME	TITLE	ORG	DATE
Original Signed by Mark Rogers	Group Lead, Operations Development Group	FD36	March 9, 2004

CHECK THE MASTER LIST
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		9/21/00	Baseline version
Revision	A	03/09/04	Revised general information, Section 4 procedure, and training requirements to reflect changes in FD36 customers. Updated applicable documents, acronyms, and definitions. Deleted Appendices A and B

1. GENERAL INFORMATION

1.1 Scope

This Organizational Instruction (OI) covers all functions in the Operations Development Group (FD36) that affect the quality of in-scope products (involving onsite MSFC activities, or onsite contractor activities being conducted by MSFC procedures) under the MSFC Quality System, per the MSFC Management Manual

1.2 Purpose

The purpose of this instruction is to document the process by which the Operations Development Group conducts business.

1.3 Applicability

This procedure applies to those projects and activities that are the responsibility of the Operations Development Group or under the auspices of their in-scope contractors

2. APPLICABLE DOCUMENTS

Revision levels of documents are not shown. The latest revision will be used unless otherwise required by contractual requirements or other regulations. In this case the letter revision of the document will be given.

FPD-OI-FD01.1	Management Process
FPD-OI-FD01.2	Authorization and Control of OI's
FPD-OI-FD01.3	ISS Task Agreement Process
FPD-OI-FD01.4	Management of Information Technology Systems and Services
FPD-OI-FD30.1	Management Process
MPD 2810.1	Security of Information Technology
MPG 1230.1	Center Resources Management Process
MPG 1440.2	MSFC Records Management Program
MPG 2810.1	Security of Information Technology
MPG 3410.1	Training
MPG 8715.1	Marshall Safety, Health and Environmental (SHE) Program
MWI 5100.1	Procurement Requisitioners Guide
MWI 5113.1	Governmentwide Commercial Purchase Card Operating Procedures

NPD 2810.1	Security of Information Technology
NPR 1441.1	NASA Records Retention Schedule
NPR 7120.5	NASA Program and Project Management Processes and Requirements
SSP 58304-01	Ground Support Personnel Training and Certification Plan
SD42-OWI-003	Microgravity Investigation Definition Process
SSP 58304-01	Ground Support Personnel Training and Certification Plan

3. ACRONYMS and DEFINITIONS

3.1 Acronyms

COTR	Contracting Officer's Technical Representative
CWC	Collaborative Work Commitment
FD36	Operations Development Group
FPD/FD	Flight Projects Directorate
ISSPO or ISS	International Space Station Program Office
MSFC	Marshall Space Flight Center
MRPO	Microgravity Research Program Office
MSA	Management Support Assistant
PDT	Payload Developer Team
RDR	Requirements Definition Review
SCR	Science Concept Review

3.2 Definitions

Contracting Officer's Technical Representative A COTR is a qualified Government employee appointed by the Contracting officer to act as their technical representative in managing the technical aspects of a particular contract. The Technical organization is responsible for ensuring that the individual they recommend to the Contracting Officer possesses training, qualifications, and experience commensurate with the duties and responsibilities to be delegated and the nature of the contract.

Collaborative Work Commitment A Collaborative Work Commitment is a document that defines the tasks and resources required to accomplish in-house work for the next fiscal year and signifies commitment of the Project Manager, Task Manager, and Supporting Organizations to provide the resources.

Experiment Definition Phase The Experiment Definition Phase establishes the science concept for a proposed microgravity flight experiment. This includes the definition of the science objectives, execution of science feasibility demonstrations, and the development of a conceptual design of sufficient depth to define engineering feasibility issues. This phase is devoted to ground-based studies to develop the science requirements for a successful flight experiment. The Experiment Definition Phase is complete after the Science Concept Review (SCR).

Hardware Definition Phase The Hardware Definition Phase establishes the project baseline. This includes the refinement of the conceptual design, resolution of engineering feasibility issues, the development of plans for the flight hardware development phase, and refinement of the science requirements. The Hardware Definition Phase is complete after the Requirements Definition Review (RDR).

Implementation Phase The Implementation Phase is when the payload design is completed and flight hardware is built and tested.

Managing Organization The Directorate of the requester, typically the Project Manager, responsible for developing the Strategic Planning Agreement (SPA) or Collaborative Work Commitment (CWC).

Operational Phase The Operational Phase is considered to be from launch of the payload to completion of Post-flight activities.

Physiological Training Also known as altitude training since it is performed in an altitude chamber to familiarize personnel who are exposed to a lowered barometric pressure with the physiological stresses encountered and how to successfully overcome these stresses.

Requirements Definition Review A peer review to baseline the science requirements as well as to assess the conceptual design, engineering feasibility, and planning for the flight experiment.

Science Concept Review A peer review to establish that the scope and feasibility of the experiment have been adequately addressed and to propose a definitive flight experiment.

Supporting Organization The title used to refer to all MSFC organizations that perform work to accomplish the tasks defined in a Strategic Planning Agreement or Collaborative Work Commitment (including any subtasks) in support of the Project manager and Task Manager.

Technical Task Agreement A Technical Task Agreement is a document used by programs to acquire goods and/or services from other organizations and institutions within NASA (i.e., a Customer Agreement).

4.0 INSTRUCTIONS

4.1 General Information

When support is requested from or provided to another organization, CWC's are developed between the Managing Organization and the Performing Organization for the products and services required. CWC's only cover tasks within MSFC, but the cooperating organizations may be either internal or external to the Flight Projects Directorate (FPD). The CWC's are developed in accordance with MPG 1230.1, "Center Resources Management Process", which covers the CWC process in detail. The CWC's are written annually and contain the key programmatic milestones, tasks to be performed, deliverables, and manpower allocations for the upcoming Fiscal Year. CWC's are considered to be records and are maintained by the Managing Organization responsible for the work and for generating the CWC's. Additional customer requirements may be defined in a Memorandum of Understanding, a Memorandum of Agreement, or a series of letter agreements.

FD36 provides support to a variety of projects, programs, and organizations both internal and external to the Marshall Space Flight Center (MSFC). However, the majority of FD36 support is provided to the International Space Station Program Office (ISSPO) and the Microgravity Research Program Office (MRPO). MRPO projects range from small, unpowered payloads to large, complex facilities that support other payloads while on-orbit in the ISS. Operations support to microgravity projects may be obtained, by CWC, at any point in the project cycle.

4.2 Procedure

FD36 provides Operations support to a variety of projects managed by the Microgravity Research Program Office. FD36 supports operations development during typical project cycles, including the Science Concept Phase, the Hardware Definition Phase, the Implementation Phase and Operational Phase.

The Science Concept and Hardware Definition Phases are used to determine the feasibility of the science objectives and the ability of the proposed hardware concept to meet them. FD36 tasks are in support of the process given in SD42-OWI-003, Microgravity Investigation Definition Process since typical Phase A and B projects usually do not have Project Plans.

During the Science Concept Phase, FD36 personnel review and perform operational assessments on the Science Requirements Document, written by the principle investigator. The Science Concept Review occurs during this phase and is supported by FD36.

During the Hardware Definition Phase, initial hardware design is performed, and requirements are documented and reviewed with NASA Headquarters. FD36 tasks are defined by the CWC, the Project Plan (if applicable), and the carrier on which the payload is being flown. Typical tasks during this phase include support to project Risk Assessment and Safety Assessment, assessment of the compliance of science requirements with safety and mission operations requirements, performing mission planning scenarios, and development and implementation of the Operations work breakdown structure and schedule. The Requirements Definition Review occurs during this phase and is supported by FD36.

During the Project Implementation Phase the design is completed and flight hardware is built and tested. FD36 tasks are defined by the CWC, the Project Plan (if applicable), and the carrier on which the payload is being flown. Typical tasks in this phase include development of the Operations Concept Document,

assessment of training hardware requirements to meet training objectives, training curriculum for crew and ground support personnel, development of crew displays, procedures and operations nomenclature, and developing and inputting requirement parameters in ground support databases (e.g., iURC and PDL). Major reviews supported in this phase include the System Requirements Review, Preliminary Design Review, Critical Design Review, Test Readiness Review, Acceptance Review, Pre-ship Review, and the Flight Readiness Review.

The Operational Phase is considered to be from launch of the payload to completion of Post-Flight activities. For projects whose hardware flies on the International Space Station, FD36 personnel may be assigned one or more console positions within the MSFC Telescience Support Center (TSC) as part of the Payload Developer Team.

4.3 Safety Meetings

Safety meetings will be in compliance with MPG 8715.1, "Marshall Safety, Health and Environmental (SHE) Program", Section 3.1.10.1. Monthly safety meetings are required. They may be a part of regular office staff meetings and are expected to represent 15-20 minutes on the agenda. Records of these meetings shall be posted on the Supervisor Safety Web Page (SSWP) at URL

www.msfcsma3.msfc.nasa.gov/dbwebs/apps/sswp/SSWP.

5.0 NOTES

None

6.0 SAFETY PRECAUTIONS AND WARNING NOTES

None

7.0 APPENDICES, DATA, REPORTS, AND FORMS

None

8.0 RECORDS

Records are maintained by the FD36 Group Lead with support from the FD36 Management Support Assistant (MSA). Records are on file for audit purposes. This OI, FPD-OI-FD36.1, is a record and will be files and controlled as such.

Records will include applicable records listed in MPG 1440.2, and, as applicable, Project Plans; Project final deliverables; and small purchase credit card training documentation. The file for the credit cards used by FD36 for small purchases is also a record.

Credit card records are not considered records, but must be maintained by the card holder. The card holder file is a government contract file that must be maintained and dispositioned in accordance with MWI 5113.1.

Logging and Filing of records will enable easy access and will assure clear identification, and will be in accordance with the requirements of MPG 1440.2, MSFC Records Management Program.

The table below identifies records for the Operations Development Group called out in this document.

Record Title	Description of Record	Authority	Retention	Notes
FPD-OI-FD36.1 "Management Process"	This OI	FPD-OI-30.1	Continuously maintained on ISO website; signed original of latest revision filed as record.	Filed and maintained by the Office of Primary Responsibility designee.
CWC's	Completed CWC's and any updates.	MPG 1230.1	3 years	Need to check database prior to use to verify printed CWC is the latest version. CWC file is to be maintained by the Managing Organization.
Special Training	Credit Card Holder and Approving Official Training listing employee and training dates	**Credit Card Holder Training**: MWI 5113.1	Forever; updated as employees transfer in or out of the office.	Memorandum is kept and maintained by the FD36 MSA Official Credit Card Holder and Approving Official Training Records kept by PS01, Procurement Office.
Safety Meeting File	Documentation of Safety Meetings. It includes the topic, safety-related meeting minutes, and signatures of participants.	MPG 1700.1	At least two years	File is kept and maintained by the FD36 MSA

9.0 TOOLS, EQUIPMENT, AND MATERIALS

None

10.0 PERSONNEL QUALIFICATION, TRAINING, AND CERTIFICATION

All employees currently employed are considered to be fully qualified to perform their current assignments. Any employees hired or transferred following the signature date of this OI will be qualified per MPG 3410.1 and the MSFC Customer and Employee Relations Directorate will maintain documentation of their qualification. The employees' supervisor, in conjunction with the employee, will define any additional training required to enhance employee performance.

FD36 personnel who sit on console and support simulations and/or flight operations of a payload must be trained and certified prior to sitting console. SSP 58304-01, Ground Support Personnel Training and Certification Plan, covers the Facility Personnel Training and Certification, Payload Developer Training Overview, and Payload Developer Team Certification Per SSP 58304-01, records of this training will be maintained by the Payload Ground Support Personnel Training Coordinator.

11.0 FLOW DIAGRAM

None